

Appl. No. 09/965,473
Amtd. Dated Dec. 9, 2003
Reply to Office action of Sep. 25, 2003

REMARKS

Claims 1-18 are pending in the application and claims 1-18 have been rejected. Claims 1, 6, 10, and 15 have been amended.

I. CLAIM REJECTION UNDER 35 USC § 102

Claims 1, 2, 4, 6, 7, 10, 11, 12, 13, 15, and 18 have been rejected under 35USC 102(b) as being anticipated by USP 6,048,350 to Vrba. In particular, relating to independent claims 1, 6, and 10, the Examiner states that Vrba discloses a catheter comprising an elongate shaft (shaft 12) and a balloon having a flexible wall (balloon 16), an intermediate body (16B), proximal and distal cones (16A and 16C), proximal and distal ends, and at least one circumferential groove formed of the balloon wall adjacent a transition between the intermediate body and a cone (FIG. 2, spaces 22), and a balloon expandable stent (stent 20).

Applicants have amended independent claims 1, 6, and 10 to include that the circumferential groove is present when the balloon is in an inflated state and a deflated state. Vrba neither teaches nor suggests that the circumferential groove is present when the balloon is in both an inflated state and a deflated state. Referring to FIG. 2 of Vrba, stent mounting bodies 24 are placed overlying the balloon. Spaces 22 are formed when the balloon is inflated. No spaces 22 are formed when the balloon catheter of Vrba is in a deflated state, thus Vrba Applicants amended claims 1, 6, and 10 are not anticipated by Vrba.

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In claim 15, Examiner states that Vrba discloses a method comprising the steps of providing a catheter having an elongate shaft (shaft 12), mounting a balloon around a distal end of the shaft, collapsing the balloon around the catheter shaft (FIG. 1 and Column 3 lines 24-36), and mounting the balloon expandable stent in a radically compressed configuration around the intermediate body of the balloon (column 3, lines 29-36).

Similar to that described in amended claims 1, 6, and 10, claim 15 includes that the balloon has at least one circumferential groove formed in the balloon wall adjacent a transition between the intermediate body and one of the proximal and distal cones. Applicants have amended claim 15 such that the at least one circumferential groove is present when the balloon is in an inflated state and a deflated state. As mentioned hereinabove, Vrba does not anticipate Applicants amended claim 15 because the balloon catheter of Vrba does not have a circumferential groove in an inflated state and a deflated state.

II. CLAIM REJECTION UNDER 35 USC § 103

Claim 5 is rejected under 35 USC 103(a) as being unpatentable over Vrba '350 in view of USP 6,254,608 to Solar. Examiner states that Solar teaches that a foamed material is used for bonding the stent to the catheter to allow the stent to become embedded in the balloon.

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Claims 3, 8, 9, 14, 16, and 17 are rejected under 35 USC 103(a) as being unpatentable over Vrba '350 in view of USP 6,293,959 to Miller et al. Examiner states that Miller teaches that the enlarged proximal and distal cones are provided to provide a nest portion for the stent so that friction is minimized and adverse contact between the ends of the stent and the wall vessel wall is minimized.

Referring to Applicants amended claims 1, 6, 10, and 15, Applicants respectfully submit that Vrba in view of Solar or Miller neither teaches nor suggests a circumferential groove that is present when the balloon is in an inflated state and a deflated state. In particular, Solar or Miller do not teach or suggest a balloon being formed with a groove as claimed by Applicants.

Applicants teach a groove present in the balloon in both an inflated and deflated state. FIG. 1 of Applicants disclosure shows a balloon 10 in a deflated state having a circumferential groove 15. In FIG. 8 of Applicants disclosure, the balloon 10 is inflated to expand and place a stent 60 in a desired location. Groove 15 formed in balloon 10 is present when inflated.

Referring to Vrba FIGs 2-5, a balloon catheter 10 is shown having stent mounting bodies 24. Stent mounting bodies 24 of Vrba are disks that extend radially way from the central catheter shaft and beyond the diameter of the deflated balloon (column 3, lines 29-36). The stent mounting bodies 24 are hard disks used as a support surface for suspending a stent overlying balloon catheter 10. A circumferential groove in a balloon as claimed by Applicants is a channel formed in the balloon as shown in FIGs 2-5 of Applicants disclosure. Vrba teaches

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the opposite of a groove in the deflated balloon catheter 10 (FIG. 2) since stent mounting bodies 24 are mounted overlying the balloon and cannot be a channel. Thus, Vrba neither teaches nor suggests a groove in balloon catheter 10 in the deflated state. Applicants respectfully submit that amended independent claims 1, 6, 10, and 15 are allowable over Vrba in view of Solar and Miller taken singly or in combination. Moreover, claims 2-5, 7-9, 11-14, and 16-18 respectively depending properly from independent claims 1, 6, 10, and 15 are also in condition for allowance.

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REMARKS/ARGUMENTS

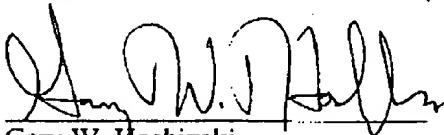
In view of Applicant's amendments and remarks, it is respectfully submitted that Examiner's rejections under 35 USC § 102 and 35 USC § 103, have been overcome. Accordingly, Applicants respectfully submit that the application, as amended, is now in condition for allowance, and such allowance is therefore earnestly requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the Applicants attorneys at 480 385-5060.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

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